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VARIOUS.

New Electrotype Process.

A new and ingenious process has lately been introduced in France for electrotyping on non conducting materials, such as china, porcelain, etc. Sulphur is dissolved in oil of a lavender spike to a syrupy consistence; then chloride of gold or chloride of platinum is dissolved in sulphuric ether, and the two solutions mixed under a gentle heat. The compound is next evaporated until of the thickness of ordinary paint, in which condition it is applied with a brush to such portions of the china, glass, or other fabric as it is desired to cover, according to the design or pattern, with the electro-metallic deposit. The objects are baked in the usual way before they are immersed in the bath. *Scientific American.*

Alloys for Ornamental Purposes.

Alloys of different materials in imitation of gold and silver, applicable as substitutes for these metals for ornamental purposes, have been produced by Messrs. Meiffren and Co., of Marseilles. To make an alloy having the colour and appearance of gold, they place in a crucible, copper as pure as possible, platinum, and tungstic acid in the proportions stated below. When the metals are completely melted they stir and granulate them by running them into water containing 500 grammes of slaked lime and 500 grammes of carbonate of potash for every cubic metre of water. This mixture, dissolved in water, has the property of rendering the alloy still purer. The granulated metal is next collected, dried, and after remelting in a crucible, a certain quantity of fine gold is added. An alloy is thus produced which, when run into ingots, presents the appearance of red gold of the standard $\frac{750}{1000}$. The colour of the alloy may be changed by varying the proportions of the different metals. As flux boric acid, nitrate of soda, and chloride of sodium, previously melted together in equal proportions, are used. The proportion of flux to be employed is 25 grammes per kilogramme of the alloy. The proportions employed by preference for producing an alloy of red gold color are: Copper 800 grammes; platinum 25; tungstic acid 10; and gold 170 grammes. *The Engineer.*

The effect of Gas on Art Works.

It will be remembered that among the great attractions of the new Paris Opera-house, the paintings with which M. Paul Baudry has ornamented the ceiling of the crush-room hold a prominent place. These works of art took ten years to produce, but they have been spoilt in much less time. The numerous lights which were to show off these works, and enable the public to appreciate their beauty, have, on the contrary, in some measure, destroyed the colouring, cracked the paint, and smeared with smoke and dirt the whole production. That this would be the case if the gas-lights continued in close proximity to the paintings, was apparent to all who took interest in these specimens of modern decorative art. In 1874 some remonstrances appeared in various newspapers on this subject, and in 1876 the administration made a special inquiry into the matter, and acknowledged that the paintings were being spoilt. Now, however, the evil is not only denounced, but a remedy is suggested. Electric light would not be destructive to the oil-colours, while the continued and imperfect consumption of ordinary gas will certainly prove fatal. Already it will be necessary to wash or clean the paintings, a process that will detract considerably from their value and freshness. A similar deterioration is noticed in one of the most celebrated *cafés* of Paris, where the decorations by M. Gustave Boulanger and M. Delaunay had been tarnished by the innumerable gas-lamps continually alight around.

As for the opera, the loiterers in the crush-room must be contented with more ordinary decorations; and certainly it must be admitted that the paintings are wasted here; for they are placed too high to be seen, and too near the gas not to be destroyed. *The Builder.*

Artificial Ivory.

A patent has been taken out by M. B. Harras, of Böhlen, for the manufacture of artificial ivory by a process of which the following is an outline: — The first stage consists in preparing three solutions, one of 100 grammes of size in a titre of water, a second of 50 grammes of alum in a litre of water, and a third of 50 grammes of wellbleached cellulose in $3^1/_2$ litres of water. The moulds from which it is proposed to obtain the desired casts are then carefully oiled with a mixture of equal parts of goose grease and hog's lard. A mixture is next made, in an earthenware vessel, of 75 parts of the size solution, 200 parts of the cellulose pap, 200 parts of water, 250 parts of well-sifted gypsum, and 200 parts of the alum solution. These must be thoroughly incorporated by diligently stirring. The mixture is then introduced into the moulds, spoonful by spoonful, these being constantly shaken meanwhile, so as to get rid of all air-bubbles that may form. Next a cloth is placed over the mouth of the mould, and all superfluous moisture drained out, after which the cast is left to shrink thoroughly, and is then drenched with a mixture of equal parts of white wax and stearine. When quite cold, the mould is detached bit by bit, either by chipping or brushing, till the shining surface of the cast makes its appearance. *The Furniture Gazette.*

American Furniture, &c., in Australia.

Our furniture manufacturers had better look to their laurels. The *Echo*, published at Sydney, tells the Australians that it is enough to set a reflective man thinking to see the almost universal use now being made, in almost every handicraft, of tools of American manufacture. The limit of ingenuity, says the writer, seems tho have been reached in England. Such firms as Elkington & Co. are being entirely cast in the shade by the Tiffanies and other firms of America. If there is any labour-saving, novel, ingenious instrument invented, from a sewing-machine to a needle-gun, ten to one but it comes from the fertile brain and skilful fashioning hand of some clever American inventor. We ride in American buggies, lounge in American chairs, and get weighed in American weighingmachines. American inventions for domestic purposes — from the washing, wringing, potato- and apple-paling, churning, and other housework machines, down to the latest dodge, a self-weighing cheese knife, are the wonder and delight of our housewives. In the workshop their marvellous self-adjusting planes, screws, chisels, and splendid tools of all kinds are entirely ousting the old-fashioned productions of Sheffield. Although we are disposed to take all these assertions *cum grano salis*, yet if there be even the least foundation for the statement, our cabinet-makers and others would do well to see to it that they are not supplanted by their American competitors. They cannot afford to lose the Australian market, and to be forewarned is to be forearmed.

The Furniture Gazette.